IV. CATTLE-WILDLIFE RESEARCH

The on-going research projects outlined in Chapter Three are listed below in priority order and with estimated costs. These estimates were supplied by the Agricultural and Forestry Experiment Station.

	Research	Cost Estimates
A.	**EXCLOSURES**, minimum of 2, is the minimum research level necessary to document changes in vegetation.	$1,000+ (depends on number of grazing areas)
B.	**UTILIZATION TOLERANCE**. This would involve clipping one or two plant species at six times during the growing season in specified treatments inside an exclosure. Results would include quantity of forage as well as protein, energy, and digestibility. If analysis of nutritional quality is eliminated, $8,000/year would cover analysis of the production. Cost varies with the number of exclosures, number of species, and number of clipping times.	$18,000-$40,000 per annum for 5 years
C.	**FORAGE QUALITY**. Ungrazed plants would be clipped at specified intervals (six times). It would involve more species in more areas than the utilization study but would be dealing with unclipped plants, which are usually poorer nutritionally than are the regrowth on grazed plants. This would be more extensive while the utilization tolerance is very intensive.	$26,000-$39,000 per annum for 2 years
D.	**FOOD HABITS**. Based on simplified USDA proposal: includes some nutritional quality analysis.	$40,000-$60,000 per annum for 2 years
E.	**HABITAT MANIPULATIONS**. Based on National Science Foundation proposal designed more for Matanuska Valley Moose Range but applicable to Hillside subunit.	$34,000 per annum for 3 years

Priorities and expenses were based on the following assumptions:

1. SCS soil survey from 1985 provides some forage quantity information, but no forage quality information. More detailed information in the grazing areas may be beneficial, but other areas exist where we have no knowledge.

2. Compton's cattle behavior study from 1969 provides some food habits and a little forage quality information, although this could be greatly improved.

3. Emphasis is placed on Little Susitna grazing area. Similar studies in Hillside area may cost a little more than Little Susitna because of additional species in birch-spruce forest.

Hence, tolerance to utilization and forage quality seem to be the most important missing items where essentially no information is available.

FUNDING OPTIONS AND RESEARCH MODIFICATIONS

The state budget is very limited at this time, and full scale scientific studies would be difficult to obtain on state funds alone. Modifications could be made in the studies outlined above to at least obtain minimal analyses. There is some overlap in the above studies; e.g., utilization tolerance and food habits each contain some analysis of forage quality but for limited species in limited areas. Hence, the cost of two studies done simultaneously could be somewhat less than the sum of the two. Combining the suggested tolerance to utilization study ($18,000/year, two exclosures, two species, six clipping times) with a minimal forage quality study ($15,000/year--15 stands, three clipping times, four species) would probably supply the most meaningful information for a limited study ($33,000/year). Costs could be decreased or increased by adding or eliminating sites, species, or number of clipping times. For instance, reducing the number of stands in the forage quality study to 10 would reduce the cost to about $10,000.

Some federal agencies and private foundations require matching funds (sometimes 50 percent). Without some state funds, it is almost impossible to obtain funds from other sources. Availability of enough state funds to help obtain funds from other sources would help provide the state with some scientific results rather than just minimal results.

Minimal results are useful if nothing else is available, but results based on a more solid scientific foundation in terms of number of replicates and years provides much better management information and would be worth the extra money in the long run. Sometimes simple studies can be used to generate hypotheses for sounder scientific studies which could be funded by non-state sources.

These values are estimates for a general budget. If funds are appropriated for studies, more detailed budgets and study plans for specific objectives with the different pieces meshed can be provided by the Agricultural and Forestry Experiment Station.